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Psychological Dimensions of Cross-Cultural Differences

Saucier, Gerard

University of Oregon

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Final Report

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14. ABSTRACT

The project "Psychological Dimensions of Cross-Cultural Differences" endeavored to answer key questions in cross-cultural psychology, including which psychological variables generate the largest differences. We created a 315-item online questionnaire representing some 50 variables, had it translated into 31 languages, and during 2012 collected data from 8,887 respondents in 34 countries. Countries included have about 2/3 of the world's population. Main findings included: Religious behavior and belief variables showed the largest country/cultural effects, along with ethnonationalism, regularity norms, and hierarchical family values. Conventional cross-cultural variables (e.g., individualism-collectivism) showed only moderate-sized effects. These results are found even after ipsatizing/standardizing data, so are not likely attributable to cross-cultural differences in response styles. Taking a more refined approach, leveraging present data, we recommended a new, optimal procedure for measuring response-bias (acquiescent or extreme responding) in surveys. Interesting cross-cultural differences were revealed for delay-discounting and overconfidence. Ove

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Psychological Dimensions of Cross-Cultural Differences

Grant Research Final Performance Report – February 2013

prepared by Gerard Saucier, Principal Investigator

To: technicalreports@afosr.af.mil
Subject: Final Performance Report

Contract/Grant Title: Psychological Dimensions of Cross-Cultural Differences
Contract/Grant Number: FA9550-09-1-0398

Reporting period: June 1, 2009 to November 30, 2012

Significant Work Accomplished:

* Created a multiscale questionnaire compacting some 50 variables into 315 items with a typical completion time of an hour or less.

* Had the multiscale questionnaire professionally translated into 31 languages, with back-translation safeguards and adjustment of a few demographic variables to suit local contexts.

* Created platforms for online administration of the questionnaire in 42 countries (one platform per country); 34 of these (81%) were successfully used to collect data.

* Built an international network of higher-education instructors and professors to publicize the study by distributing informational flyers with unique login codes to students at their respective institutions.

* Engaged some 8,887 respondents from 34 countries to provide responses to the questionnaire (6,976 or 78% of whom had less than 10% missing data in their responses).

* Provided compensation of approximately $20 USD to each respondent, either via Western Union (for 5,668 of them, or 64%), or Amazon (for 3,219, or 36%).

* Completed data collection and respondent compensation under considerable duress, as due to IRB-approval delays we had only about 10 months in total for data collection, which is far less than what had been initially planned.

* Combined the 34 country data sets into a single combined data set, in four stages (4 countries complete by August, 12 countries by early October, 21 countries by the end of October, and all 34 countries during the early part of November).

* Did early work on several publication projects, in the last months of the grant. Engaged three consultants to develop designs/plans for carrying out one or more projects (each to lead to a future publication) during the funding period (i.e., before the end of November). Also worked on a basic, central publication project run by the PI. as well as a report on the translations and how they are being made available. Thus, the basic work on five different publication projects was done in the August to November 2012 period. This work has been continued since 30 November 2012, past the expiration of the grant.

Comprehensive Summary:

The project "Psychological Dimensions of Cross-Cultural Differences" has sought to answer key basic questions in cross-cultural psychology, including: Which kinds of psychological variables are most associated with cross-cultural differences? What is the structure of the variables on which populations and cultures differ most? How can investigators best account and adjust for individual and population differences in response biases connected with questionnaire response?

A multi-scale survey enabling measurement of approximately 50 variables in some 281 questionnaire items and 20 cognitive-judgment items, as well as demographic items, was assembled. It was translated (with back-translation safeguards) into 31 languages beyond the original English. We prepared to adapt materials for use in 42 countries, however (a) a few of these countries proved impractical for study publicizing and data collection, and (b) a few others were lower on our priority-list and the potentials were not developed due to the impending expiration of the project. As part of the translation process demographic variables were adapted to local context for use in 34 countries, with this full adaptation occurring for each country from which we actually received data. A separate online data-collection portal was created for each country.

The 34 countries include a more globally representative collection of populations, better matching the distribution of global population across countries, than has been true in most previous cross-cultural studies. These 34 countries include about 2/3 of the world's population, and about ¾ of the world's total aggregate of GDPs (gross domestic products).

The study was publicized in each country by cooperating instructors and professors at higher-education institutions. Students who received flyers with unique login codes by this means could choose (if they wished) to go online and participate. Data collection operated on a rapid timeline from winter till autumn of 2012; due to IRB-approval delays we had only about 10 months in total for data collection, although the original plan had been to complete it across about a year and a half. Nonetheless, despite the truncated window for data collection, the original plan had been to have 10,000 participants, and we came fairly close to that goal. In all, 8,887 individuals (58% female, with an overall mean age of 22) from the 34 countries chose to participate, and each was compensated for their participation by receiving approximately $20 in the form of an Amazon gift certificate (where available) or having $20 dispatched to them via Western Union (in those countries where Amazon was not a practical option, which turned out to be a majority of them). By the end, we had provided compensation to 5,668 respondents (64% of the total number of respondents) via Western Union, and to 3,219 respondents (36% of the total) via Amazon.com and its affiliates beyond the USA, in Canada, UK, Germany, Spain, Japan, and China.

Once data was received on our online server, we periodically downloaded it, and eventually data sets from countries were successively fully completed. The combination of the 34 country data sets into a single combined data set took place in four stages. To give an idea of how this developed, the combined data included 4 countries fully complete by August, 12 countries by early October, 21 countries by the end of October, and all 34 countries during the early part of November.

On site at the University of Oregon, a number of individuals have contributed to the project: Gerard Saucier as principal investigator; Judith Kenner as research associate and study coordinator; Philippe Bou Malham, Kathryn Iurino, Zhuo Chen, Laura Akers, Amber Gayle Thalmayer, Jessica Jiang, Seraphine Shen-Miller, and Suhasini Sanyal as research assistants. As might be fitting for an international cross-cultural study, a majority of those engaged as research assistants on this project were born outside the USA and are fluent in another language.

Outside this university, we engaged three consultants to develop designs/plans for carrying out one or more projects (each to lead to a future publication) during the funding period ending 30 November 2012. The three consultants were Markus Kemmelmeier (University of Nevada – Reno), Michele J. Gelfand (University of Maryland), and Lazar Stankov (now at University of Western Sydney, Australia); Stankov is listed on the original grant proposal, but was contracted with as a consultant since he was at a foreign institution during the project period. During the last few months of the project we also worked on a basic, central publication project led by the PI (Saucier), as well as a report on the translations and how they are being made available (led by Kenner). Thus, the basic work on five different publication projects was done in the August to November 2012 period. This work has been continued since 30 November 2012, past the expiration of the grant.

Analyses on the final set of data have progressed considerably. The most dramatic findings arising so far are contained in the basic, central report on the project mentioned above. These findings concern the kinds of variables cross-cultural psychologists have adopted as the staple of their field; these findings essentially critique that set of variables. Based on these new data, items conventionally emphasized in questionnaire-studies in cross-cultural psychology showed only modest-effect cross-cultural differences, when a fairly representative sample of countries was compared. In contrast, large-effect cross-cultural differences were obtained for items referencing religious behaviors, nationalistic sentiments, and views and expected roles and behaviors within families and based on gender. This suggests that, to the extent that it is appropriate for cross-cultural psychology to focus on what differentiates cultures, there should be *more* emphasis on understanding cultural dimensions of religion, ethnonationalism, and family- and gender-role related values and behaviors. To go along with this, the present data suggested that there should be proportionally *less* emphasis on conventional cross-cultural variables (individualism-collectivism, tightness-looseness, social axioms, values as per the work of Schwartz, and social norm concepts derived from work of Hofstede). These conventional variables do show moderate cross-cultural differences, so it is worthwhile to continue giving them attention, although it has become clearer (not just in this study, but some other recent studies) that the lion's share of variation in them is between individuals within their societies, rather than between the societies themselves. As noted, variables related to religion, ethnonationalism, family and gender roles, and so on showed more differences across populations than these conventional variables. Because this pattern of results occurred even in data that had been standardized/ipsatized to bluntly reduce impact of response styles, the results cannot be attributed to response styles. A key part of an existing paradigm in any field is a received understanding of what kind of phenomena (variables) are most worthy of study. Thus this 'survey of world views' provides empirical indications for a paradigm shift in cross-cultural psychology.

Three tables from the just-described line of work are appended to this document. These are updated and improved from those submitted in an interim report at the end of November 2012.

Other findings observed in early returns on planned empirical studies are interesting, and detailed next.

The first set of findings comes from work collaborating with Markus Kemmelmeier of the University of Nevada. Response styles present a potential validity challenge to cross-cultural survey research, but it is well established that acquiescent responding styles (ARS) and extreme responding styles (ERS) occur unequally across samples/societies. Using different types of samples and a plethora of different methods of assessing ARS and ERS, the literature offers heterogeneous conclusions about their cross-cultural variability. Existing studies examine either ARS or ERS, but not both. As described above, in our new data a blunt method for reducing effects of response styles indicated main findings are not due to either phenomenon. In this other work, we have developed a more refined approach. We have proposed an optimal procedure for the construction of ARS and ERS measures. We have shown that many questionnaire variables yield unexpected, even nonsensical, results in cross-national comparisons unless there is some correction for response biases. We have demonstrated the utility of our new procedure and the resulting measure in a series of multilevel analyses, in which ARS and ERS are examined relative to same set of items. Using conceptually independent measures, ARS and ERS were modestly correlated, r = .21. At the cultural-level of analysis, our tests have corroborated some of the more established findings, indicating that Hofstede's variables of individualism and societal wealth (GNP per capita) were associated with lower ARS, but findings for which the literature only offers mixed support were generally not supported. However, the data also offered the opportunity to test a series of novel hypotheses based on ecological and intergroup theorizing. Harsher living conditions in a society (assessed by low life expectancy) predicted lower ARS. Relative outsider status in a society (minority or non-citizen status) tended to relate to higher ARS and ERS.

The second set of findings comes from work collaborating with Michele J. Gelfand of the University of Maryland, involving cultural differences in impatience. A classic conceptualization of impatience is in terms of delay-discounting – the tendency to prefer immediate rewards instead of larger future rewards. Individuals have long been shown to differ in discounting rates, with a higher rate indicating rewards are slower to lose their current value as their delay is increased. In this project we measured discounting rates using items like "Would you prefer $54 today or $55 in 117 days?" and "Would you prefer $40 today or $55 in 62 days?" Rates of delay-discounting vary somewhat cross-culturally, as previous studies suggested might be true, and here we found trends that cultural fatalism, cultural looseness, and faster pace of life were correlated with higher impatience.

A third set of findings comes from work done by Lazar Stankov. The survey used in this project included a reliable set of five 'number series puzzle' items. When examining responses to these cognitive-ability items, world regions differed more on accuracy (i.e., proneness to provide the correct answer on number-series items) than on a measure of confidence that one has provided the correct response; overconfidence was more strongly pronounced in those regions where accuracy tended to be lower. A figure illustrating the pattern is attached as the last page of this document. Stankov interprets overconfidence as a defense mechanism that cushions a person from experiencing negative feelings due

to failure. Relatedly, at the national level, he interprets overconfidence as a means to preserve common dignity.

Our other report in preparation describes the project's translation and back-translation processes and procedures. Its aim is to facilitate cross-cultural survey research by providing translated materials that can be used (or improved upon) in future studies. This report also details how researchers can locate translated materials on their own, at *http://psychometriglossia.uoregon.edu/*

Immediately following is the current bibliography of papers in preparation based on the project. The first of these will be submitted for publication in March 2013, and we expect that all will be submitted by approximately June 2013. Because the beginning-date for data collection on this project was delayed considerably, the maturing of the publication stream from the project is occurring after the cessation of funding. We anticipate that additional manuscripts will be based on these data, though not necessarily by our team; it is a common practice in cross-cultural psychology that large data sets are shared for scientific purposes and become the focus of research questions and hypotheses that the original investigators had not emphasized.

List of publications in preparation (in same order as described above):

Saucier, G., Kenner, J., Bou Malham, P., Iurino, K., & Chen, Z. (in preparation). *Cross-cultural differences evident in a global survey of world views.*

Kemmelmeier, M., & Saucier, G. (in preparation). *Response styles in cross-cultural perspective: Creating optimal measures and testing new hypotheses.*

Stillwell, A., Gelfand, M., Ting, H., Salmon, E., & Fulmer, A. (in preparation). *Correlates of national impatience.*

Stankov, L. (in preparation). *Overconfidence across world regions.*

Kenner, J., & Saucier, G. (in preparation). *Psychometriglossia: A resource for cross-cultural survey research.*

Archival publications (published) during reporting period:

(Each of the following is related indirectly to this grant project:)

Saucier, G. (in press). Isms dimensions: Toward a more comprehensive and integrative model of belief-system components. *Journal of Personality and Social Psychology.*

Thalmayer, A. G., Saucier, G., & Eigenhuis, A. (2011). Comparative validity of brief- to medium-length Big Five and Big Six questionnaires. *Psychological Assessment, 23*, 995-1009.

Saucier, G. (2010). The structure of social effects: Personality as impact on others. *European Journal of Personality, 24,* 222-240.

Stankov, L., Higgins, D., Saucier, G., & Knezevic, G. (2010). Contemporary militant extremism: A linguistic approach to scale development. *Psychological Assessment, 22,* 246-258.

Stankov, L., Higgins, D., Saucier, G., & Knezevic, G. (in press). Contemporary militant extremism: A linguistic approach to scale development. *Psychological Assessment.*

Stankov, L., Saucier, G., & Knezevic, G. (2010). Militant extremist mindset: Pro-violence, vile world, and divine power. *Psychological Assessment, 22*, 70-86.

Saucier, G. (2009). Recurrent personality dimensions in inclusive lexical studies: Indications for a Big Six structure. *Journal of Personality, 77*, 1577-1614.

Saucier, G. (2009). What are the most important dimensions of personality? Evidence from studies of descriptors in diverse languages. *Social and Personality Psychology Compass, 3/4*, 620-637.

Saucier, G. (2009). Some crucial semantic and linguistic aspects of personality. Invited chapter for P. Corr & G. Matthews (Eds.), *Cambridge handbook of personality psychology* (pp. 379-399). Cambridge, England: Cambridge University Press.

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Abstract

The project "Psychological Dimensions of Cross-Cultural Differences" endeavored to answer key questions in cross-cultural psychology, including what psychological variables generate the largest differences. We created a 315-item online questionnaire representing some 50 variables, had it translated into 31 languages, and during 2012 collected data from 8,887 respondents in 34 countries. The countries included have about 2/3 of the world's population, and otherwise compare favorably with other cross-cultural studies with respect to global representativeness. Main findings included: Religious behavior and belief variables showed the largest country/cultural effects, along with ethnonationalism, regularity norms, and hierarchical family values. In contrast, conventional cross-cultural variables (e.g., individualism-collectivism) showed only moderate-sized effects. Because these results are found even after ipsatizing/standardizing data, they are not likely attributable to cross-cultural differences in response styles. Taking a more refined approach, building on unique characteristics of present data, we recommended a new, optimal procedure for measuring response-bias (acquiescent and extreme responding) in surveys. Interesting cross-cultural differences were revealed for delay-discounting (associated with external variables such as pace of life) and for overconfidence on ability items (overconfidence is highest where accuracy is lowest). Overall, this project has provided useful, sometimes unexpected and potentially paradigm-changing answers to basic questions in cross-cultural psychology.

Appendix

Three tables and one figure follow.

Table 1 gives details for 33 countries. It omits the country that had only four respondents (United Arab Emirates).

Analyses in tables 2 and 3 are based on 30 countries: rather small datasets from Australia, Ireland, and the Netherlands are held out in order to enhance the global representativeness of the total set of countries (i.e., to make it less Eurocentric).

In tables 2 and 3 “ipsatized data” means data that has been transformed so that each respondent’s data is standardized, that is, each respondent has the same mean (0) and standard deviation (1) for all responses. Eta-squared and ICC (intraclass correlation) represent the percentage of variance in the item that can be attributed to group (here nation/country) differences. Higher coefficients mean more differences between groups in responses to the item.

Table 1

Demographic Characteristics for 33 Countries, Grouped by Region

Country/Territory/Region	N	% Female	Mean Age	Mean-%-Missing
Africa (sub-Saharan)				
Tanzania	256	32	24.8	5.38
Kenya	288	33	24.6	2.99
Ethiopia	381	29	24.0	3.71
North Africa/Middle East				
Morocco	441	50	25.6	4.75
Egypt	38	35	21.9	2.62
Turkey	416	54	21.1	3.79
South Asia				
Bangladesh	272	22	21.7	3.15
India	390	62	21.1	10.15
Nepal	346	59	21.0	6.68
Southeast Asia				
Malaysia	324	66	20.5	6.05
Philippines	425	68	20.0	10.68
Thailand	350	72	21.6	3.92
Singapore	304	55	21.7	7.38
East Asia				
China (mainland)	350	73	20.8	15.62
Taiwan	395	64	22.6	5.69
Korea	58	43	26.2	6.84
Japan	429	63	20.9	8.67
East/Southeast Europe				
Russia	69	83	22.3	1.25
Ukraine	244	64	20.2	6.78
Poland	225	88	21.2	0.71
Greece	246	70	21.8	2.21
Western Europe				
Spain	379	64	22.7	7.29
Germany	349	52	23.6	3.21
Netherlands	30	60	24.1	1.33
United Kingdom	229	62	22.7	1.79
Ireland	33	68	32.0	12.80
North America/Australia				
Australia	67	65	20.3	0.35
Canada	220	61	21.8	2.03
United States	425	57	21.9	4.26
Latin America				
Mexico	157	65	26.6	10.65
Peru	309	61	21.8	12.83
Argentina	243	56	24.3	11.99
Brazil	195	79	22.2	1.17

Note. Mean-%-Missing is the mean percent of missing responses across 281 prime survey items.

Table 2

Items Showing the Largest Cross-Population Differences Across 30 Countries

η^2	η^2_{ips}	ICC	ICC_{ips}	Item in full
.39	.31	.37	.29	How often do you spend time in private religious activities, such as prayer, meditation, or study of religious scriptures? (d)
.39	.27	.38	.27	How often do you attend church, mosque, temple, or other religious meetings? (d)
.36	.29	.35	.27	I try hard to carry my religion over into all other dealings in life. (d)
.33	.28	.32	.27	Religion should play the most important role in civil affairs. (i)
.33	.26	.32	.25	My religious beliefs are what really lie behind my whole approach to life. (d)
.31	.26	.30	.25	In this society, children generally live at home with their parents until they get married. (g)
.31	.25	.31	.24	At a critical moment, a divine power will step in to help our people. (e)
.30	.23	.31	.24	In this society, a mother sleeps with her child until well past the child's second birthday. (r)
.30	.25	.28	.23	I adhere to an organized religion. (i)
.28	.21	.28	.21	We need tough leaders who can silence the troublemakers and restore our traditional values. (i)
.27	.20	.26	.19	Men and women each have different roles to play in society. (m)
.26	.20	.24	.18	If you are protecting what is sacred and holy, anything you do is moral and justifiable. (e)
.26	.18	.28	.17	In this society, aging parents generally live at home with their children. (g)
.26	.19	.24	.17	[What's right vs. wrong can be decided based on] Whether or not someone's action showed love for his or her country. (m)
.26	.20	.23	.19	I honor the glorious heroes among my people who sacrificed themselves for our destiny and our heritage. (n)
.25	.19	.23	.17	In my life, I experience the presence of the Divine. (d)
.24	.20	.25	.21	Respect for authority is something all children need to learn. (m)
.23	.16	.23	.16	In this society, individuals occasionally become possessed by a spirit, who temporarily takes possession of that individual's body. (r)
.23	.19	.22	.18	My first loyalty is to the heritage of my ancestors, their language and their religion. (n)

.23	.17	.23	.17	I can always trust the government to do what is right. (i)
.23	.18	.23	.18	My honor is worth defending, even aggressively. (p)
.23	.16	.22	.15	In this society, people fear that if they break social rules then others will use sorcery or witchcraft against them. (r)
.22	.17	.21	.16	I believe in predestination- that all things have been divinely determined beforehand. (i)
.22	.15	.22	.15	The mother should accept the decisions of the father. (f)
.22	.17	.21	.17	In this society, people believe that the spirits of dead ancestors are active and can affect events in everyday life. (r)
.22	.16	.22	.16	The father should be the head of the family. (f)
.22	.18	.23	.19	The homeland of my people is sacred because of its monuments to our ancestors and heroes. (n)
.21	.14	.19	.13	I am proud of my country's history. (m)
.21	.17	.21	.17	I believe in the superiority of my own ethnic group. (i)
.21	.16	.22	.16	In this society, boys are encouraged more than girls to attain a higher education. (g)
.20	.18	.20	.18	In this society, teen-aged students are encouraged to strive for continuously improved performance. (g)
.20	.16	.20	.16	My ancestors once lived in a golden age with glorious and beautiful achievements. (n)
.20	.15	.20	.15	Foreigners have stolen land from our people and they are now trying to steal more. (e)
.20	.14	.20	.14	The father should handle the money in the house. (f)
.20	.15	.21	.16	Going to war can sometimes be sacred and righteous. (e)
.20	.13	.19	.12	Religious faith contributes to good mental health. (a)
.19	.15	.21	.16	It is always smart to be completely truthful. (h)
.19	.24	.22	.28	In this society, alcohol is consumed frequently and occasionally in great quantities. (r)
.19	.13	.20	.14	Parents and children must stay together as much as possible. (c)
.18	.17	.17	.16	What is good can be judged only the gratification of the senses. (i)
.18	.14	.18	.13	[What’s right vs. wrong can be decided based on] Whether or not someone was good at math. (m)
.18	.22	.23	.23	My own race is not superior to any other race. (i)

Note. N ranges from 6,789 to 7,289 depending on the item. η^2 – eta-squared; ICC – intraclass correlation (ICC[1]); ips – in ipsatized data; η^2 and ICC indicate the proportion of between-individual variance in the item accounted for by between-country differences. Letters in parentheses indicate the item-pool source: (a) social axioms, (c) collectivism, (d) Duke religion index, (e) extremist thinking patterns, (f) family values, (g) GLOBE social norms, (h) Machiavellianism, (i) isms, (m) moral foundations, (n) ethno-nationalism, (p) proneness to aggress (culture of honor), (r) – added 'regularity norm' items derived from anthropological literature.

Table 3

Comparison of Item-Pool Sources: Average Eta-Squared Values Across Items From Each Source

Mean η^2			
Original	Ipsatized	Item Source	No. Items
.34	.26	Duke Religion Index	5
.23	.18	Nationalism (ethnonationalism only)	4
.22	.18	Regularity-norm behaviors, derived from anthropological literature	6
.16	.15	Family values	8
.14	.12	Proneness to aggress (culture of honor)	3
.14	.11	Extremist thinking patterns	17
.13	.12	Isms	46
.12	.11	Moral foundations	22
.12	.10	GLOBE social norms	43
.12	.10	Machiavellianism	5
.10	.10	Social axioms	30
.10	.08	Individualism-Collectivism	16
.09	.09	Materialism	4
.08	.07	Values (short Schwartz)	10
.07	.09	Cultural tightness-looseness	6
.07	.08	Nationalism (civic nationalism only)	2
.07	.07	Personality (Big Six)	40
.07	.06	Amoralism	14
.12	*.10*	*Total Pool of Items*	*281*

Note. Means computed across eta-squared values derived from analyses with N ranging from 6,789 to 7,289. “No. Items” refers to the number of items in each source, across which the respective mean is computed.

Figure.

Accuracy (% correct, lower curve) and Average Confidence Scores (upper curve) For Nine World Regions in Study of Stankov